

ROLE OF THE ARMENIANS IN BYZANTINE SCIENCE

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The ninth century was noted in Byzantine history for its political and intellectual resurgence. After centuries of slumber, the scientific mind finally was aroused, and the forgotten science reappeared, shedding off the dust of indifference.

The leaders in this field were the Armenians, as they had been in the political arena. To their initiative spirit and intellectual capacity we owe the rise of the sciences in Byzantium. The old cultural candles which flickered in the various centers of the empire were almost all extinguished in the following century, during the reign of Justinian. With the exception of the University of Constantinople which had been founded in 425 during the reign of Theodosius II, there were higher educational institutions in Athens, Alexandria, Antioch, Bereut, Edessa and Caesarea.

Justinian's policy of centralization was fatal to the sciences. It was he who closed the University of Athens in 529, or prohibited the teaching of philosophy and jurisprudence, to be precise. It was again he who removed the teaching in jurisprudence in all the cities, reserving it only to Constantinople, and partly to Bereut. With the exception of the school in Edessa which was closed in 489 by order of Emperor Zeno, all the other schools suffered, or disappeared during Justinian's reign. Some dragged their miserable existence until they were permanently engulfed by the Arabic deluge. Only

the university of the capital was left as the sole nursery of science. But it, too, soon lost its luster, and thanks to a succession of illiterate emperors, surrendered to oblivion, and eventually ceased to exist. Learning and literature, having been deprived of the state patronage which they formerly enjoyed, withdrew to the monasteries, taking along with them the last fragments of science.

There was no longer any question about the Hellenic sciences, nor could there be. Very naturally, the walls of the monasteries could not have entertained those scientific conclusions which were the birth of pagan outlook. The conquests of the pagan mind in physics, the speculative structures, and the philosophical revelations were repugnant to the Christian scientists. The Bible had the answers to all the questions which plagued mankind.

A glimpse at the curriculum of the Theodosian university will show what the Christian governments considered as important in the ancient sciences. The university had 31 professors, 3 of whom taught Latin rhetoric, 10 taught Latin grammar, 5 Greek rhetoric, 2 jurisprudence, and only one taught philosophy. The principal subjects, therefore, were grammar and oratory, and partly the science of laws. At the opening of this university in 425 the state language was Latin, and Greek was the official language of the church. One had to know both languages, and therefore, both were taught at the university.

The Latin, however, was soon replaced by the Greek as the official language. Those countries which constituted the Byzantine empire were not related to the Latins or the Greeks either in language or by blood. Their claim on the government was chiefly by virtue of their civilizations and was not racial. If in the end the preference was given to the Greek, the reason of course was the church. Christianity had chosen the Greek language as the medium of its preaching.

The Greek which had begun during the Seleucid era had become the leading language in the Near East as the medium of international relations and the civilized citizenry. Its entry into the church was natural. Later it forced itself on the state. In a certain measure, and a certain sense, the Byzantine state was the ecclesization of the Roman. The overwhelming majority of the population was ignorant of the Greek language. The Greeks themselves, who were settled in the seacoast regions, and partly in the interior trade centers, were in need of learning the classical Greek which was quite different from the spoken vernacular.

It is easy to understand, therefore, why the Greek language was given the ascendancy in the university courses. The grammar of Dyonisius of Thrace was the accepted textbook. Dyonisius lived in the second century before Christ, but his work won great fame and popularity in the Byzantine era. The Greeks were followed by the Armenians and the Assyrians who translated the Thracian's grammar into their languages. There is a rich literature in grammar, which is proof that it was in great demand. With the ancients, as well as with Dyonisius, grammar had a much wider meaning than the word today connotes. It included literature and history, which, in our modern terminology, meant the liberal arts. 25 of 31 professors of the Theodosian University taught grammar.

The next important subject was oratory

which was inseparable from logic and dialectics. The latter was nothing but the art of debating, in the form of questions and answers. A rigid language, skillful word, and the erudite letter—these were the things which the Christian church demanded. These were invaluable weapons for the defense of the Christian doctrine against the pagan sophists who were experts in the use of the same weapons. The arts of oratory and debating were necessary in fighting not only the pagan sectarians, but the Christian heretics. Lastly, oratory was useful against the learned Mussulman, with whom the advocates of the church had frequent clashes.

Barsegh of Caesarea had a significant analogy for this. "Even as the cities have high walls for their defense," he said, "so religion has a high wall of its own, and that is dialectics, which prevents the enemy from his ravages, or from capturing the religious creed so easily. To master the science of dialectics, one had to know the works of Aristotle. The introduction of Porphyrius, the Signature of Aristotle, Perarmenias, and similar works became the objects of study. This branch of literature was developed not only in the Greek, but Armenian and Assyrian languages. The immediate aim was to acquire knowledge in religio-ecclesiastical questions and controversies. It may safely be stated that science, indeed, was the handmaid of theology, and served her immediate interests.

The conquests of antiquity in the field of the established sciences were not considered as a part of daily needs; they were unappreciated treasures, goods without consumer demand. These were: mathematics, geometry, astronomy and music, a quartet which was called Tetraktus, or quadrivium, designated by Grigor Magistros as the Quadruple Arts. Khorenatzi, the ancient Armenian chronicler specifies the four sciences as: "Astronomy by the Chaldeans, Arithmetic by the Pheonicians, Geometry by the Egypt-

tians, and Music by the Thracians." The wisdom of the church felt no need of these sciences and they remained hidden among the manuscripts, removed from public inquiry.

One Arab historian describes the condition of Hellenic sciences amid a Christian setting in following words: "In the ancient Grecian period and the early centuries of the Byzantine Empire, science continued to flourish. The scientists and the philosophers, always held in high esteem and the objects of attention, busied themselves with the physical sciences and the study of the human body and the mind. They also busied themselves with the quadruple sciences, namely mathematics which is the science of numbers, geometry which deals with the measurement of planes and forms, astronomy or the science of celestial bodies, and music which is the art of the harmony of sounds. The sciences were respected and enjoyed international esteem. Seated there on a solid and glorious pedestal, they were on the upward rise from day to day when the Christian religion made its appearance among the Greeks. It was a fatal blow for the structure of science. It toppled down from the heights and the doctrines disappeared. The creations of the ancient Greeks were destroyed and those discoveries which were the product of the genius of the ancients were distorted and disfigured." (Nasudi, *Les Vrairies d'or*, II, 320).

The following bold lines from a letter of Grigor Magistros are indicative of the same idea: "Albeit I am a pupil of fishermen, still I am not unfamiliar with the scientific achievements of the Athenians nor the Hellenic erudition, howbeit our faith hath buried the wisdom." Grigor was fully acquainted with the "Quadruple sciences."

This disconsolate status of the sciences lasted for centuries until its revival in the ninth century. The old tree began to sprout new branches, at first under individual effort, and later under the protection of the state.

In this rejuvenation, the first scientist, and the first maecenas (patron), both were Armenians.

II

The Armenian period of Byzantine history begins with Emeror Leo V, and not Basil the Macedonian, the beginning, and not the latter part of the ninth century. Armenian influence was not weakened by the assassination of Emperor Leo. Michael II Psellus, the stammerer, who was inferior to his victim in every respect, was not the man who could minimize his crime by any great exploit. His son Theophilus was a more competent and intelligent prince than his father, and more cautious and circumspect than his profligate son Michael. At all events, he was more presumptuous than competent. Theophilus' wife was Theodora, the Mamikonian Princess. Her uncle from the father's side, Manuel Mamikonian, was strategos (commander-in-chief) of the Armenian divisions in the reign of Leo V, and continued to remain the outstanding military figure of the empire until his death in the days of Michael III. Theodora's sisters and their husbands, Arshavir Patrik and Constantine Bagoutzik, and her brothers Vard and Petron were the most active persons during the Amorrian Dynasty.

This was the brilliant period of the Mamikonian House. Vard Mamikonian so far prospered that he was in line as the legal successor of the last of the Amorrians, his nephew, and was about to lay the foundation of a new dynasty were it not for an erratic quirk of fate which deprived him of the opportunity to ascend the imperial throne and to offer it to its more fortunate champion, his kinsman Basil the Great. It was this Vard who became the patron (Maecenas) of the sciences. He was a cultured man who loved learning, the sciences and the scientists cult. His patronage of the sciences was not limited to his personal sympathy but included the state. The first manifestation of

the state patronage was the opening of the new university in the palace called Magnavra. Even his enemies admitted his merits, his great and invaluable services to the cause of learning. The first head of the new university was Leo the Philosopher, another Armenian who derived from a princely family. He was an intimate friend of Vard, and in all probability the real author of the scientific institution. Vard entrusted him with the directorship of the new venture. Who was Leo the Philosopher?

Often, even in the memory of the contemporary generation, especially in Byzantium, famous characters are represented with mythical lines. He had studied all the sciences and had acquired such a profound erudition which was inaccessible to anyone else. Philosophy and the sister sciences, mathematics, astronomy, geometry and music were equally familiar to him. He had accumulated his intellectual treasures and had spanned the summit of science by virtue of his innate rich talents, his indefatigable application, and his cloistered life. Away from the noise of the city, he had secluded himself in an indigent small house where he received and taught all who came to him anything they wanted to learn. He had many pupils. It was through the influence of one of those pupils that the great scientist, that hidden treasure, was brought to the attention of the government, an incident which eventually transferred him to the imperial palace.

One of Leo's pupils who had studied geometry took a position with one of the generals as his secretary. When the general went to battle the Arabs he took along with him his secretary. The latter was taken prisoner, and eventually was sold to a noted Arab as his servant. At that time the Chief Emir was Mamoon who was noted for his patronage of learning. He especially loved the Greek sciences, geometry in particular. Once, in the course of a conversation, the

prisoner servant learned from his master that the Emir was interested in scientific problems, and promptly he revealed that he knew geometry and wanted to meet the Emir's scientist teachers. The Arab prince took the news to Mamoon who, being thirsty of knowledge, instantly summoned the boy before him and asked him how true it was what he had heard about him. The Calif did not hide his skepticism, openly claiming that no more able scientists than his teachers existed under the heavens. This made the young servant all the more anxious to meet those scientists. The Emir granted his request and an appointment was arranged. The Arab scientists drew triangles and squares, enumerated Euclid's rules, and with the solemnity of scientists, made a long list of axioms, saying this is called thus, and that that. But why they were called thus, or what was the meaning or the cause, they did not know. They spoke glibly of the axioms but they could not comprehend the essence.

The Greek prisoner instantly sensed that their knowledge was faulty, or imperfect, as long as they could not reason the thing out. Then he proceeded to explain the reasons. Astonished, the scientists asked him where he had acquired that much knowledge and if there were many scientists like him in Byzantium. The prisoner replied that, like many many others, he was counted among the pupils and never among the real teachers. They were curious to know who his teacher was. Their surprise was even greater when they learned that his teacher was Leo the Philosopher who was still alive and living in poverty, unknown to the public.

Mamoon was deeply excited and immediately wrote to Leo the following letter:

"We have recognized the tree from the fruit, the teacher from the pupil. Whereas, with all thy philosophical profundity and thy virtuous conduct, thou hast remained unknown to thy compatriots, hast not reaped

the fruits of thy knowledge and wisdom, and hast not been rewarded by thy compatriots with the homage which is due thee, it would be well that, were it thy pleasure, thou could'st come and join us, and make us partake of thy teachings. If thou should'st deign to accept this offer, and come to us, the entire nation of the Saracens will bend their necks before thee, and will load thee with riches, and honor thee with such gifts, the like of which has never been accorded to any mortal."

Mamoon gave the letter to the Greek servant, loaded him with gifts, and ordered him to deliver it to his teacher. He promised more new gifts, and even his freedom, if he only succeeded in persuading the philosopher to leave his native land.

The prisoner came to the imperial city and looked up his teacher. When he saw his illuminated warm face, he went to pieces, he cried and embraced him, and wet his face, his neck, and his breast with his tears. The teacher did not recognize him, and stood there, amazed at the behaviour of the stranger. The years he had spent in captivity had changed his looks. When the youth repeated his name, when and where he had studied under him, the philosopher recognized him. The youth delivered the Emir's letter, but Leo, fearing the monarch's letter might arouse suspicions, and give way to unpleasant consequences, thought it wise to take into his confidence the great logodet, Theogdest the Eunuch.

The Eunuch met Leo, and on his part, told the whole thing to Emperor Theophilus. The latter took an interest in the matter, called Leo to him, gave him a pension, and ordered him to lecture in the Church of Forty Children. This was how the great philosopher came out of his oblivion and won fame among the intellectual and official circles of the capital.

It is also related that Mamoon, upon the failure of his invitation, wrote another letter

to Leo in which he offered a number of geometrical and astronomical problems, asking their solution. Leo answered all these problems with extensive explanations, adding to it a number of predictions, and sent the letter to the Emir. The latter was amazed by Leo's simple solution of the complex and abstruse problems which was added proof of his unmatched erudition. He again tried to bring over the famous scientist by writing directly to the emperor:

"I wanted to come to you in person," wrote the Calif, "in proof of my friendship, and at the same time to become your pupil. Howbeit, the rule which God has given me, as well as my countless subjects, make it impossible for me to leave my country. Therefore, I beseech you to send me for a brief period the man who has won fame in philosophy and the sciences. Let him come and live with me as my teacher, and impart to me his knowledge and his virtue, to me who am a lover of both one and the other. Surely you will not refuse me because I do not speak your language and am a stranger to your faith. Among good and noble friends such requests are respected, especially when the requester is such a man as I. In return, I am willing to offer you 2,000 liters of gold and to sign a peace treaty which is binding."

"Mamoon held in such high esteem Leo's coming and his popularity," writes the historian. But Theophilus rejected the Emir's request. He thought it unwise to turn over to the enemy a native gift, the treasure which had brought luster to the Byzantines and had been the object of wonder and respect. He exalted Leo by ordering Patriarch Hovaness to ordain him metropolitan of Thessalonika. The Patriarch carried out the Emperor's command, having known Leo intimately as his kinsman.

A unique incident brought great fame to Leo in Thessalonika. It happened that for years the country had been plagued by a drought. The people were in great misery

and were suffering from the famine. Following certain astronomical observations, Leo determined the precise season for the sowing of the seed to insure a crop, and the peasants followed his advice. The resultant crops justified the prediction and the peasants were prolific in the praises of their scientist metropolitan.

Leo's fame rose to such heights that for many it was an enigma how a man could reach such perfection in all the sciences. Leo himself confided the secret to one of his close friends. He had learned grammar and poetry in Constantinople, eloquence, philosophy, and mathematics in the Island of Antros. Here he met a learned man with whom he studied but could not find what he was looking for, and after acquiring the elementary principles of knowledge, he took his leave. He traveled all over, from monastery to monastery, rummaging through rumpled manuscripts, and examining them critically. He took along with him what he thought was important and ascended the peaks of the mountains where, in the deep solitude, he carefully studied the books he had collected. After he had mastered the last word in knowledge, he returned to the capital and began to disseminate the seeds among those who wanted to learn.

Leo busied himself with this occupation until he became a bishop. His tenure of the metropolitan post lasted three years, after which he returned to his scientific and pedagogical pursuits. He was appointed director of the palace school of Magnavra. Of his three pupils, Theogoros taught geometry, Theotikios, astronomy, and Komitas grammar. Vard was their patron, generous in his aid, and boundless in his love for knowledge. He made frequent visits to the school, and encouraged the pupils, thus, "giving wings to the sciences." The sciences took wings and swooped onward.

Obviously certain parts of this story are unauthentic. First of all, the story of the

circumstances of Leo's and Mamoon's acquaintance is doubtful. According to another source, the intermediary was another of Leo's pupils who was in the besieged army during the siege of Amorea in 838. Having gone over to the Arabs, to save his life from imminent loss, this pupil who was an astronomer, notified the enemy that if they kept up the siege of the city for another two days they would be able to capture it. And that's the way it happened. Amorea fell, part of the noted military were massacred, and another part fell prisoners to the Arabs.

The traitor saved his life at a base price by relying on the Arabs. It was he who told the Emir about Leo the Philosopher. The Emir wrote a letter to Theophilus, asking him to let the philosopher come to him, with promises of great gifts, and dispatched the letter to Constantinople through one of the prisoners. It was only then that Theophilus learned of the existence of a great scientist within his domain, and instead of sending him to the Emir, appointed him lecturer at the palace of Magravna, with all the facilities he needed, and later, Leo became the Metropolitan (Bishop) of Thessalonika.

The same story is repeated, word for word, by another historian, with the only addition that Leo was ordained Metropolitan by Patriarch Methodius (Vsendo Sym. 640). This latter information, however, is wrong. Leo lost his throne of Metropolitan in 843 as one of the leaders of the iconoclastic faction, when image worship was reinstated. And because he had served only three years as Metropolitan, he must have been ordained in 839-840. Methodius succeeded Patriarch Hovanness who was dethroned in 843 for the same reason, and kept the throne for 4 years, 843-847. It is plain that he could not have ordained Leo.

The first source says nothing about the time of the capture of Leo's pupil, whereas, the second is sure that it took place in 838, during the siege of Amorea. In this event,

the prisoner could not have had any dealings with Mamoon who had died in 833. It is also improbable that the event took place in the days of Mamoon when Leo, as we have seen, was comparatively young, and as yet not quite ready for his future calling. Mamoon's intervention in Leo's life, his letter writing, inspire no faith and must be regarded as pure invention. The only foundation, or the cause of the legend, no doubt was the fact that Mamoon was a great lover and patron of the sciences.

Perhaps Byzantium did have a definite scientific mission. The Arabs were wont to respect Greek science and were trying to appropriate it through translations. On the other hand, their thirst for learning, if not their actual supply, could have found an echo in Byzantine intellectual circles. The strivings of the two neighboring countries in the field of education, to a more or less degree, was natural and almost indisputable. In all probability the legend of Leo's and Mamoon's correspondence was founded on this fact.

Too, we must take with a grain of salt that part of Leo's biography according to which he lived in great penury and was forced to eke out a living by giving private lessons until he was introduced to the Imperial court. It is unlikely because Leo did not derive from a common family. Suffice it to say he was a cousin of Patriarch Hovanness, Eksadelfos, as testified by his biographer (Cont. Th. 185: Anepsios Kedr). Hovanness was not a newcomer or a foreigner, but was a native, and a scion of the imperial city. He was not an unknown person, but came from a noble family which was called Morakartzam. (Cont. Th. 154).

Hovanness had a brother by the name of Arshavir who was raised to the rank of Patrician by Emperor Theophilus. Could it be that Leo was the son of this Arshavir, or some other brother of Hovanness?

We must pause here to take a look at the

life and activity of Patriarch Hovanness, which is important, not only in order to clarify the domestic setting of Leo, but because Hovanness himself was an outstanding figure with his education and his scientific training.

III

Hovanness came upon the scene during the reign of Leo V the Armenian and played a big role in his ecclesiastical policy. It is regrettable that all the historians belong to the opposite camp, and therefore, are not impartial toward Hovanness or those who thought like him. To heap praises upon their partisans, and to hurl invectives at their opponents has been the accepted rule. The language they have used against Hovanness is adequate proof that he was not a champion to be dismissed lightly.

When in 813 Leo ascended the throne, resolved on restoring the iconoclasm which had been repudiated in the Council of 787, he looked around to find a capable theorist. The election was won by a young clergyman by the name of Hovanness, a man of vast erudition for which he was called Grammatikos. In 814, at the behest of the Emperor, Hovanness started on the preliminary labors. He had to accumulate data for the forthcoming council, and to this end, all the imperial libraries were at his disposal. The chief sources were the records of the Council of 753 which included all the important testimonies of the ancient fathers in opposition to the images. The work was carried on in the palace, in a special room where, as hostile writers sarcastically refer to, a luxuriously loaded table was never missing. (Vita Nicephori, ed. Boor, p.165).

The Council took place and Patriarch Niciphor lost his throne. A new election was necessary. Hovanness, although among the candidates, was not elected because of his youth (Script. incert. 359). A close friend of Hovanness was Theodius Cassideras of

Melisse whose father, Michael, was a general (strategos) in the army of Copronimus, Emperor of the Anatolian provinces. His other collaborator, and the third important figure, was Constantine Cassimat, the son of a defrocked priest who at first was teacher of grammar and jurisprudence and later entered the clergy under the name of Anton.

Theodius was the first to be elected Patriarch; after his death he was succeeded by Anton, and finally, in 832, Hovanness became the patriarchal incumbent. Emperor Michael continued the respectful attitude of his predecessor toward Hovanness, always appreciating his position on iconoclasm, and always respectful of his vast erudition. He also appointed him teacher of his son Theophilus. We are indebted to Hovanness for the best qualities of Theophilus, especially his affection for the arts and sciences. Theophilus loved his teacher, appointed him Seneschal, and later raised him to the patriarchal throne.

It was also Hovanness' lot to take part in political life. When, on his accession, Theophilus wanted to send an embassy to the Arabic court, he thought Hovanness best suited for the mission. He was thoroughly versed in political and state affairs, was an eloquent speaker and an incomparable debator. Being an Armenian, he was familiar with eastern customs and mores, and perhaps was not unfamiliar with the Arabic language. No better choice could have been made for the embassy.

It is beyond the range of our purpose to describe how well Hovanness fulfilled his mission. Suffice it to say, Hovanness brought with him from Bagdad a draft of the royal court, based on which, the Emperor had a new palace made in Brias. The construction and supervision of the building according to the plan of Hovannes was committed to an architect named Patricus. The new building was so similar to the plan, in style and decorations, that it could hardly be distinguished

from the original. Theophilus honored the architect by raising him to the rank of patrician (Cont. Th. 98).

Hovanness paid a second visit to Bagdad, this time entrusted with a mission of signing a peace treaty, and with secret instructions to contact Manuel Mamikonian, the famous general, and to induce him to return to the imperial service in the fatherland (Gen. 63, Cont. Th. 119). Theophilus was satisfied with his mission, and when Anton died, Hovanness inherited the patriarchal throne as the sole worthy candidate. He was patriarch from 832 to 843. After the death of Theophilus, his widow, Empress Theodora, listening to the intrigues of Logodet Theogdist, restored the worship of images, but the Patriarch was unshakable in his convictions and preferred to abandon his throne. He was exiled to a monastery called Clideon on the banks of the Bosphorus where he died, probably in 860.

The name of Hovanness has been sullied by his antagonists. As a champion of iconoclasm, he has been accused by his opponents of all sort of crimes which are unworthy of the high calling of a patriarch. In reality, there was no great difference between the proponents and the opponents of iconoclasm. The controversy centered on whether they should respect or worship the images, and to find a happy medium was not at all difficult. But the clergy are adepts in rousing the passions, and sowing the seeds of hatred, where a modicum of circumspection could easily have restrained the malicious lips.

Hovanness, as we have stated above, was the son of a wealthy family, the scion of a famous dynasty. From his early youth he had worn the clerical garb and later became an abbot in the monasteries of St. Sarkis and Bakkhos, both enlisted among the palace churches, and therefore, included in the imperial clergy (Gen. 83, Cont. Th. 154). His family wealth had enabled him to acquire a thorough and manifold education.

His customary name was Grammatikos (Cont. Th. 32, Georg. 766, Sym. 635), which meant that he had mastered the entire scope of the contemporary sciences, in as much as the word Grammatikos has a wide meaning, as we have explained before. His fiercest enemies, who in their blindness have willingly declined to see anything good in him, have not hesitated in admitting his superior education and intellectual excellence. They emphasize his logiotes, intellectual brilliance which made him the favorite of Michael Psellus (Cont. Th. 154). They emphasize his erudition in politics, he knew the meaning of politike entaksia, political reforms, he was an intrepid opponent, a master polemicist, a master of arts (Cont. Th. 96). He was highly versed in philosophy and dialectics, which the historian ridicules as sophistry, and therefore, they brought to him all those stubborn ecclesiastical recalcitrants who opposed the prevalent ecclesiastical line, to bring them to their senses (Cont. Th. 102).

Nevertheless, enemy chroniclers, carried away by their religious or partisan passions, called him not Hovanness but Hanness. That was the name of the Egyptian sorcerer priest who competed with Moses (Tim. II, chapter 3, 8). They said Hovanness was not a common man but a sorcerer. They also called him Simovn, referring to the Magus of that name. They would have you believe that from childhood he was possessed of the devil and a lunatic. He was given the name of Pot as if he was a Kylilas (Scrip. Inc. 349, Kilzilas, Sym. 606), which in Hebrew means a messenger or a satellite of satan. He was accused of the arts of lekanomanteia, pharmakeia, and desecration (Georg. 766, Sym. 606).

They also relate that Hovanness had a brother by the name of Arshavir, a patrician who had a home outside the city, near the monastery of Phokas on the bank of Bosphorus. This was a magnificent mansion with a pillared courtyard, and equipped with

baths and all sort of conveniences, worthy of the handiwork of a nobleman. Patriarch Hovanness made frequent visits at this mansion where he lodged for the night. Here, he had a special laboratory in the cellar with a private stairway and door, a sort of hiding place where Hovanness surrendered himself to revelries, with mistresses and even virgin girls. They busied themselves here with fortune-telling, resorting to various devices of sorcery, such as the examination of the liver, lekanomanteia, necromancy, and spiritualism, namely invoking the spirits of the dead. Among many others, Emperor Theophilus was a participant in these mysterious orgies (Cont. Th. 156-157).

It would be supercilious to attach any worth to this nonsense. When Hovanness was dethroned and was succeeded by Bishop Methodius, the latter was accused of having had a love affair with a woman. The presumption is that the accusers were the correspondents of Hovanness. Methodius was vindicated by submitting himself to an unseemly test. He divested himself of his clothes and openly proved that he was physically incapable of committing the crime ascribed to him.

If Hovanness was really guilty of love affairs, the partisans of Methodius would not have spared him and would have hurled the same insult into the faces of their antagonists. But no such thing happened. It is plain that the scandals ascribed to Hovanness are uncertain, and are nothing but the inventions of gossipmongers and poisonous minds. The reputation of Grammatikos and Patriarch Hovanness for sorcery is to be explained by fact that he came from the east, the land of the magi and the Chaldeans, and that he was a wise man. Hovanness was an Armenian, his brother's name Arshavir, and this much is enough to put his Armenian origin beyond all doubt. His father's name likewise is Armenian. Hovanness was the son of Pankratios Skiastes (Vsendu-Sym.

606, taken from De Leone Bardae, an unnamed author, p. 349).

Pankratios is the Greek form of the Armenian name Bagrat. Who is this Bagrat and what does the surname Skiastes mean? When in 792 Emperor Constantine VI marched against the Bulgars, among others he was accompanied by Vard the Armenian prince, the strategos (commander-in-chief) of the Armenian provinces and the father of the future Emperor Leo the Armenian, and one called Pankratios the false prophet and astronomer. Pankratios was endowed with the talent of seeing into the future and had predicted the Emperor would be victorious over the Bulgars. Relying upon his friend's prediction, Constantine neglected the necessary preparations for the battle, and as a result of his incautious and reckless attack, suffered a crushing defeat. Led by their king Kardam the Bulgars massacred the Emperor's army, and among the fallen were Prince Vard and the astronomer Pankratios (Theoph. 6284).

This Pankratios was the father of Hovanness Grammatikos, the Armenian Bagrat. The intimacy of Emperor Leo and Hovanness was therefore based not only on their ideological kinship, but their close family ties as well. Their fathers who fell in the same battle could not have been strangers to each other as comrades in arms, and especially as Armenians.

In 815 Hovanness had been considered too young for the patriarchal throne. If at the time he was between 25 and 30 which is still too young for the patriarchate, he must have been born around the years 785-790, which means he must have been an infant when his father was killed. The surname of Skiastes attached to Hovanness' father Bagrat is likewise indicative of the astronomer and pseudo-prophet Bagrat. Skiastes is one of the surnames of Apollo—if the word is nothing but Greek — and is used for Apollo, meaning a soothsayer or one endowed with

the ability of predicting the future. In this sense Skiastes means a pseudo-prophet, the title which was given to Bagrat. It is the same name and the same synonymous surname—it is obvious that the reference is to the same man.

Men of learning, especially those who followed the natural sciences, were often called by these derisive appellations. Hovanness was likened to Trophonius, the founder of the Delphic Temple and whose name was synonymous with the oracle. Sandabaren (Cont. Th. 156) no doubt was a scientific figure, and perhaps that was the reason of his friendship with Phot. He too had a reputation as a miracle-worker and a teller of the future, and was compared to Apollo, (Sym. 693—Georg. 846).

In the eyes of the Christians the Apollonian art was a sort of sorcery, and therefore, the scientists to whom these arts were ascribed, were regarded as sorcers maintaining secret ties with the demons. The demon Hullilas (or Huzilas) was the patron of Hovanness; the Patriarch Phot had acquired his vast erudition from the devil called Lebuphas (Sym. 672-3).

Whoever was endowed with such qualities, it may safely be said, was a wise man, versed in the natural sciences, as well as the Bible. The natural sciences were regarded as pagan heritage, the outpourings of the devil. The gift of necromancy and fortune-telling were likewise of the devil, the birth of pagan sciences.

Bagrat, who was called a pseudo-prophet, was one of these scientists who dived in the natural sciences. The proof of this was the fact that he was an astronomer. If our supposition, that Bagrat was none other than Bagrat the Skiastes and the father of Grammatikos Hovanness, it becomes plain that Hovanness and his brother Arshavir came not only from a noble, but well educated family. They had inherited from their father their love of learning and had reaped the

first fruits of knowledge from the immediate circle which he had created. Arshavir, as we have seen, had a mansion on the banks of Bosphorus, near the Monastery of St. Phokas, where Hovanness' laboratory was located (Cont. Th. 156). According to another source, Hovanness had another mansion called Troulos outside the city where he carried on sacrifices to the devils and indulged in predictions (Georg. 799, Sym. 635).

Such goings on took place in the home of Arshavir, and it seems the reference is to the same place. Obviously Troulos is none other than Arshavir's mansion on the bank of Bosphorus. Troulos obviously is the word troullos which means a dome, which suggests that Arshavir's home was dome-shaped in the eastern style. It is said that Basil the Armenian later bought Arshavir's home and converted it into a monastery, the same as he completely renovated the Monastery of Phokas (Cont. Th. 157). On the other hand, the home of Hovanness, Troulos, was uninhabited as a nest of the devil (Georg. 799, Sym. 635), as if they were different mansions. It should be observed, however, that Constantine Porphyrogenitus in enumerating the buildings of Basil, although mentioning the renovation of Phokas, says nothing about Arshavir's mansion (Vita Bas—Cont. Th. 340). Therefore, it cannot definitely be said that Basil really converted the famous mansion into a monastery.

After his fall from the patriarchate, the life of Hovanness is a complete blank. We only know that in his exile to the monastery of Clideon he destroyed some images as a result of which the Empress Theodora had him chastized with two hundred blows and had him removed to the Monastery of Psika (Cont. Th. 151). Even after his death the unfortunate ecclesiastical was not left alone. They say Emperor Michael the Drunkard had his body exhumed from the grave, together with the ashes of Emperor Constan-

tine the Iconoclast, had it stripped of its pontifical vestments in a circus of horse races, had the lifeless body flogged barbarously, and then had it burnt (Georg. 834, Sym. 681).

The fault was not Emperor Michael's. To be sure, he was no model of morality, yet he was too free of that moribund fanaticism in religious matters to be capable of such a heinous act. Hidden behind him were Hovanness' implacable enemies who were devotees of image worship but had completely forgotten the spirit of Christ. This simple episode alone is enough proof of the moral monstrosities to which they had stooped. After all this, their stupid and malicious slanders surrounding the name of Hovanness are worthless.

Michael was assassinated in 867. The obvious conclusion is Hovanness' death must have occurred earlier. It cannot be said that he was just dead, when Michael exhumed his body. At the same time he dishonored the body of Constantine Copronimus who had died in 775. In all probability Hovanness' death synchronized with the sale of Arshavir's mansion, where his laboratory was located. The mansion was bought by Basil when he was Parakemomin (Head Chamberlain). He had risen to this rank as a result of his attempt on the life of Vard in 858-9. Hovanness' death and the sale of the mansion must be placed after this date, and before 858-9. Now let us turn to Leo the Philosopher.

* * *

IV

Leo was Grammatikos Hovanness' cousin (Cont. Th. 185) and therefore the grandson of Bagrat the Astrologer. Hovanness' brother was patrician Arshavir, the owner of the famous mansion. Could it be that Leo was his son, or the son of another brother whose name is not mentioned by the historians?

The name Bagrat is the exclusive property

of the Bagratonian family, to which no doubt belonged the astronomer. The name Arshavir is also characteristic of the Kamsarakan family. If Bagrat's son bore the name of Arshavir the explanation must be sought in the mother's line. Bagrat's wife obviously was from the Kamsarakans.

After Vardan, the monostateg, who in 802 attempted to seize the Byzantine throne, the same attempt was made by another Armenian by the name Arshavir in the same year. This was a patrician and a questor by office. His daughter Theodora was the wife of Leo the Armenian. It is not improbable that Bagrat had family ties with the house of Arshavir and this may account for the transfer of the name Arshavir to Bagrat's son. Arshavir the Questor could have been the son of a close relative of Nerseh Kamsarakan who in 785 fell in battle together with generalissimus Bagarat and Tajat Andzevatzi. The latter was a general of the Bukelaria province who, having escaped from the intrigues of Empress Irene, had found refuge in 782 with the Arabs, and together with the other two Armenian princes had gone against the Huns and the Kazars where all three fell in the battle of Derbent in the summer of 785 (Ghevond (Leo) the Historian, p.160-161).

We take it that Arshavir the Questor and Bagrat the Astronomer were the sons of these princes, Nerseh Kamsarakan and generalissimus Bagarat. It will be recalled that Bagrat was killed with Vard the patrician, the son-in-law of Arshavir and the father of Emperor Leo V, on the Bulgarian front.

Vard was a scion of the Artzrouni family. It seems that these three houses, the Kamsarakans, the Bagratonians, and the Artzrounis were interlinked with family ties. Only in this way can we account why Bagrat's son was called Arshavir. It is quite possible that Bagrat's grandson, Leo the Philosopher, owes his name to Leo V the Emperor. Whether Leo was the son of Arshavir, or

whether Grammatikos Hovanness had a second brother who was the father of Leo the Philosopher, cannot be stated definitely.

This Arshavir should not be confused with his cognomen the patrician who was the husband of Empress Theodora's sister Kalomaria, and therefore a son-in-law of the Mamikonians. At the time of the assassination of Theogdist the Eunuch in 856, Kalomaria was living with her sister in the palace and was an accomplice of her brother Vard in his intrigues against Theogdist. It appears that at the time Kalomaria had lost her husband and, as a widow, had found shelter with her sister in the imperial court. Meanwhile, Hovanness' brother Arshavir was still alive when Basil was Parakimomen. The latter won that post after the assassination of Theogdist (Vard's attempt) about 858-9, which proves that the two Arshavirs, Kalomaria's husband and Hovanness' brother, are two different persons. The former could have been the son, or the grandson, or a close relative of Arshavir the Questor. The princely families had the right to retain their dynastic names as long as they signified their origins.

Admitted that Hovanness and Arshavir could have been the grandchildren of Arshavir the Questor's sister, it comes out that Leo V was the husband of the aunt from the mother's side. In this event, the friendship between Hovanness and Leo the Emperor becomes intelligible not only in view of their ideological conformity in regard to image worship, but also viewed from their family kinship.

It is said of Hovanness that he came from an exceedingly noble family (Cont. Th. 254). If he really was a relative of Arshavir the Questor, as we have supposed he is, we can understand how this was true, because Arshavir the Questor was not a common figure but an influential senator and a candidate to the throne. The office of Questor required a mastery of the Greek and Latin languages,

high literary talent, and a comprehensive knowledge of jurisprudence.

Leo the Philosopher belonged to the cultured and erudite family of Bagrat the Astronomer, Hovanness Grammatikos, and Questor Arshavir,—the son of a noted house in the full sense of the word. Even disregarding his supposed relationship to Arshavir the Questor and Bagrat, judging from the literary period of Hovanness and Arshavir, the Troulos mansion which was an intellectual rendezvous would be enough to assert with certainty that Leo, their nephew, was brought up under the most favorable circumstances. From his childhood he had all the facilities of a good education. There could be no talk of poverty. That Leo lived in penury, was forced to make a living by giving lessons, or that he lived in obscurity, as his biographer has said, in no wise corresponds with the facts. The atmosphere of the Troulos mansion was far from poverty or obscurity, where Leo had grown up. Not only he was not wanting in material assets, but on the contrary, thanks to advantages offered by the munificence which he enjoyed, he was able to travel to distant centers, as far as Andros, to go through the collections of manuscripts, and to satiate his thirst for learning. He had studied grammar, poetry, and rhetoric in the capital under no less capable a teacher than his uncle who was called Grammatikos, no doubt because of his vast erudition. Thereafter he traveled extensively to complete his education by private application. The picture of poverty and obscurity which his biographer has painted for us is merely a mythical embellishment, wholly devoid of historical basis.

It was his domestic munificence which made Leo metropolitan Bishop of Thessalonika, apparently when he was too young for the position. If his uncle was not old enough in 815 to become patriarch he must have been not more than 25-30. Therefore in 815 Leo must have been an infant, be-

cause he was scarcely 30 in 840 when he became metropolitan. His biographer's legend of Leo's correspondence with Mamoon, at the time he was giving lessons in an obscure hut, likewise transgresses against the facts. Mamoon died in 833, while Leo could not have been born before 810. In the days of Mamoon, therefore, he was a mere lad, and could neither have given lessons nor have corresponded with him.

In all probability Leo's scientific and pedagogical activity began after he abdicated his post of metropolitan in 843. At that time, although Vard was one of three trustees of crown prince Michael, he nevertheless was not influential in political affairs. As Logodet, Eunuch Theogdist had won over the confidence of Empress Theodora and had neutralized the influence of Vard in state affairs. Vard had been obliged to limit his activity to educational pursuits. He took great care to revive the so-called external, or secular sciences (Cont. Th. 185). To this end, he founded schools first at the church of the Forty Children and later in the palace of Magravna, putting them in charge of Leo the Philosopher.

The discovery of Leo could not have taken place in the days of Theophilus as his biographer would have us believe. Equally erroneous is the contention that Theogdist was his first patron (Cont. Th. 189). His biographer is not a friend of Vard. He is a partisan of Basil and is inspired by Constantine Porphyrogenitus. Driven by the urge to minimize the name of Vard, he makes Theogdist Leo's patron and ascribes to him the latter's appointment as lecturer at the Forty Children's school. Chronologically, Theogdist could not have patronized Leo in the days of Theophilus. Neither he could have patronized him after Theophilus, because of the change in religious policy. Leo lost his metropolitan throne in 843 as a result of the victory of image worship. And since Theogdist was the soul of the new

policy, it is unthinkable that the fanatical eunuch could have supported his fallen antagonist in any other career. The example of Patriarch Hovanness, who lost his throne under the same circumstances, precludes the thought that his nephew Leo would be dealt with greater tolerance or clemency.

Vard was the maecenas (patron) of Leo in his scientific and pedagogical activities after 843. If it's true that Leo lectured at the Forty Children's school, this too must be ascribed to the patronage of Vard. The opening of the University of Magravna is placed by the historian at 843 (Cont. Th. 192). And since we have found it historically impossible that Leo could have lectured before this date, it would be more convenient to start his lectures at the school of Forty Children from this date, and place the courses at Magravna somewhere between 856 and 866, under the tutelage of Vard. During this decade Vard had full control of the government and ruled the empire in the name of his nephew Michael, and it was during this period that Leo's activity as an educator reached brilliant heights. His immediate associates were Theodore, Theodekios, and Komitas who taught geometry, astronomy, and the courses in literature. These were Leo's pupils, probably graduates of the school of Forty Children.

Leo was the director of the school. Unfortunately, nothing from his writings has come down to us. However, a very clear idea of the direction of his teachings, and its spirit, has been transmitted to us by a satirical writing directed against him. The author of this satire is none other than one of Leo's pupils, one Constantine, who, disillusioned by the knowledge he had gained at the foot of his master, ventures to unmask the anti-Christian spirit of his teachings after his death. The script is entitled "Contra Leo the Philosopher, by Constantine his pupil," and is written in the Homeric style. Following is a verbatim translation of the entire

script:

1

Boundless is thy knowledge, the repository which
the ancients
In their dissertations have expounded, pertaining
to all wisdom.
Howbeit, thy soul was lost, when thou did'st drink
the salty water,
And thou did'st wallow in the sea of wickedness,
O miscreant!
Thou did'st desert the faith sublime and supernal,
After thy baptism in the holy basin of Christianity,
O miserable.
Having denied the mystery, terrible and sublime,
The mightiest miracle of the Holy Scriptures,
Headlong thou did'st tumble into the monstrous
abyss of Hellenese abomination
And wert swallowed up by the soul-devouring
beasts, O Leo.
Who is the soul who will not pity thee, mourn not
thy fall,
Who will not weep at sight of thy plight, to this
thou hast come?
No longer can thy weary foot lean against that
rock,
To walk the path with steps firm and straight.
And having abandoned the holy Trinity, thou
worshippiest now
The galaxy of false gods, O fool.

2

Hearken, O ye offspring of men, the famed people
of Christ,
Ye have not known of this man's heresy;
Zeus is his god whose wife is Hera,
Zeus the paramour of virgin beds,
Zeus and a whole horde of celestials,
As enumerated by Homer, the famous Melisse-born.
Come then, all ye noble comrades,
Let's tell him thus to his face in unison:
Begone thou evil-headed, descend into the dark
Hades,
Perish thou, together with thy wisdom, thy misery,
and thy wickedness,
Go thou and join Periplegethon at the Tartarus,
Join the Crisipes and the Socrateses,
The Pericleses, the Plato's, the Aristotle's and the
Epicureans,
And thy friends the Euclids and astronomer
Ptolemies,
The queen of wisdom, the Homeric muse,
As well as the Hesiods and the Arats.

3

To be enveloped by the eternal fire thou art
worthy,
Together with thy wonderful company
Whom thou lovest and callest prophets,
And art in collusion with their occult deceits.
All this, I Constantine, fed by thy Calliope's milk,
Accumulated the wisdom,
And having studied the secret of thy heart,
Understood and exposed thy hidden evil.
(Migne, P.G. 107 C. LXI).

The ungrateful pupil's writing serves the exact opposite aim from what the author had intended. He could not have furnished us with more eloquent evidence of Leo's and

his university's scientific spirit. This is not a satire, but the best proof of Leo's free and unshackled thought.

First of all, noteworthy is the broad circle of the lectures in which classical literature holds a high position, including not only Homer and Hesiod, but almost all the founders of the important philosophical schools, such as Socrates, Plato, Aristotle, Epicureus and Procles, which were made the subject of study. Euclid and Ptolemy are specifically pointed out as Leo's friends, which indicates his specialty of geometry and astronomy.

Instruction was imparted in a spirit of liberal-mindedness, free from religious bias, **which accounts for the general impression, especially on the part of those who were imbued with the spirit of Christianity, that the lecturer was sympathetic with the pagan outlook, whereas, the truth is, they were merely approaching the subjects under study as scientists, and not as religious philosophers.** Constantine's exposures are not an outburst of wounded vanity, or the hatred of a pupil. His complaint is not personal, but is the expression of the temperament of certain strata of the people. Hellenic sciences at this time were considered as abominable, or something to be dreaded and shunned, to be exact. People thought they undermined the foundations of Christianity, and they actually scandalized the true believers. The charge that Leo worshipped Zeus and his celestial compeers was of course an exaggeration. The truthful gist of this accusation was the fact that Leo did not take the Christian creed as his postulate or starting point.

A first glimpse at Constantine's writing leaves the impression as if his satire was aimed not at Leo but against those persons whose opinion of the famous scientist was varied and conflicting, however, a second writing on the same subject by the same writer leaves no doubt that his shaft was really aimed at Leo. It appears that certain circles regarded Constantine's accusation

rather grave. They condemned the pupil for his ingratitude to his spiritual parent, to which the pupil was obliged to reply with a fresh writing entitled: "The Defence of Leo the Philosopher, According to Which he Worshipped Christ and Cursed the Hellenic Heathen Gods."

This title cannot be authentic because it is in glaring variance at the contents. It was not Leo who was defending himself against Constantine, as the author of the title thought, no doubt as a result of careless reading. It is the same Constantine who, recalling the discontent against him, starts to attack his teacher anew, and to prove that he was basically right in his charges. This is what Constantine writes:

"Many have censured me with evil words and ridiculed me saying: 'What a writing! What an honorable compensation for the education you received! You paid him well who was your second father, O brave. In return for the education he gave you, you erected an eternal monument for him, calling him a fool, a blasphemer, and an apostate.' Others have blamed me, being unadvised perhaps of my solid ground. They have dared to say that my words are lies, dictated by malicious enemies, who bribed me into attacking my deceased teacher. I listen to their drivel as much as possible, enduring it patiently." (Migne, P.G. 107, c. 660).

Constantine then turns to the attack. He explains comprehensively his attitude toward the Hellenic sciences and the pagan world. He declares that "the word of God is the only source of truth, Christ is the witness." He curses those who deny the truth and do not worship "the holy Trinity in one." He concludes his writing with the following significant words: "This is the reason why, beginning with now, I love eloquence, and why I chose the venerable Bishop Phot as my teacher, who fed me with the divine milk."

Leo and Phot present a perfect contrast. Leo was the representative of Hellenic sci-

ences, Phot of Christianity. On the other hand, we know that Phot, the founder of the famous library, was a great lover of classical literature. The contrast between the two consists of the fact that Leo was a specialist of the so-called Hellenic quadruple sciences, whereas Phot specialized in the historical works. The crux of the controversy between the two, therefore, could not have been classical literature as such, but only the natural sciences. It was believed that these sciences were in disagreement with many points of the Scriptures. During the Byzantine period Hellenic literature was the object of study to a more or less degree. What was spurned, or ignored, were the so-called quadruple sciences, and it was their revival which gave rise to complaints in ecclesiastical circles, and right here is centered the importance of Leo.

From Constantine's reference it is obvious that Leo was already dead when the ungrateful pupil rose against him. While the exact year of Leo's death is unknown, we know that he was alive during the first years of Basil's reign. In all probability he did not live much after Basil. In the days of Basil a great earthquake took place in the capital, during the festival of Polyektos, which lasted 40 days and nights, destroying many churches, including the Holy Mother of God Church called Sigma. It is related that Leo the Philosopher was at the church of Sigma at the time of the earthquake. He immediately warned the worshippers to get out of the church but they would not listen to him and they all perished. Leo himself, however, together with two others, sought shelter under one of the pillars and was saved (Georg. 840, Sym. 688).

The festival of Polyektos is celebrated on the 9th of January. The earthquake took place in the third year of Basil's reign in 870 (according to Sym. 688 whose annals although unreliable, seem to be correct in this instance). This story could easily be

taken in the opposite sense, meaning, Leo perished in the church together with the other worshippers. It is strange that Leo should advise the others to leave the church while himself remaining behind. Obviously the advice ascribed to Leo and his escape are a pure invention. It is incompatible with the fame of the great scientist that one who was well versed in the secrets of nature should fall a victim of the earthquake, and consequently, they have distorted the true story by claiming that all the worshippers perished inside the church while Leo was saved by seeking shelter under the pillars.

In his writing which appeared after the death of Leo, Constantine asserts that he chose Bishop Phot as his new teacher. The latter could of course have busied himself with giving lessons only after he had abdicated his patriarchal throne which took place in 867. He was reinstated in the year of 879. Constantine must have studied under him between these two dates when Leo must already have been dead. This observation confirms our theory that Leo was dead by the year 870.

V

Leo was a Byzantine Armenian, born and brought up in the capital. It may fairly be stated that he was a native product both in aspirations and his insatiable thirst for learning. It should not be forgotten, however, that his grandfather was Bagrat the Astronomer who was not indebted to the capital for his knowledge but brought it with him from his fatherland of Armenia, which gives us the right to presume that to a certain extent his blood spoke in Leo. In saying this, I do not necessarily refer to heredity, but to the family traditions. Without intending to delve into the intricacies of Armenian and Byzantine intellectual relationships, I would like to draw a parallel between Leo and another Armenian scientist, to bring out the spiritual intimacy between the two. This scientist was Ananias Shirakatzi who lived

in the 7th century, and occupied the same position in Armenian education as Leo did in Byzantine education. He was the first to sow the seeds of science among the Armenians. Fortunately, we know more about him than about any other ancient writer, thanks to his writings. This is what Ananias tells about himself:

His education is divided into several periods, the first of which he describes in the following succinct and meaningful words: "I collected the learning of our Armenian nation and I mastered the Holy Scriptures." This means that he studied and mastered the entire storehouse of Armenian learning and became an erudite man. But this was not enough to satisfy his thirst for learning. He wanted to acquaint himself with the art of figures (mathematics)—"Having a great longing for the art of figures, I thought nothing counted in learning without calculations, thinking this was the mother of all learning."

The situation was exactly the same which had been confronted by Leo the Philosopher who, after having mastered rhetoric and grammar in the capital, began to dream of acquiring the natural sciences. Like Leo, Ananias had been unable to find a teacher in Constantinople. "Among the Armenians I found no man of wisdom," he writes, "nor found a book on arts in the whole world." There was nothing he could do, except, like Leo, to travel in his quest for knowledge.

Having set out for the land of the Greeks, he arrived in Theodosiopolis where he met a man by the name of Eleazar, a man well versed in ecclesiastics, and from whom he learned about a famous mathematician named Christosatur who lived in Fourth Armenia (a subdivision of Armenian Minor). Ananias went to Christosatur and spent some time with him, but he did not stay more than six months because he was soon convinced that Christosatur was not a man of exceptional erudition. Thereupon he decided to go to Constantinople. Here he

contacted some acquaintances who, upon learning the purpose of his mission, told him he had gone through all this trouble for nothing. They were surprised that Ananias had not heard of the famous scientist Thukhikos of Trebizond who likewise was well versed in Armenian letters, so much so many students from the capital repaired to him to complete their advanced education.

Just then, at the behest of the Patriarch of Constantinople, a certain deacon named Philager was escorting a group of students to Trebizond to study under Thukhikos. Ananias joined the company and eventually met Thukhikos who spent his time in lecturing at the church of St. Eugene the Virgin. Ananias spent eight years here accumulating knowledge in the sciences of his wanting, and familiarized himself with countless manuscripts "which had not been translated into Armenian, for there were so many writings, so many secrets and revelations, books on history and medicine and chronology, and there was not one book which could not be found there."

Ananias speaks with admiration of Thukhikos' knowledge of the Armenian language. He could translate from Greek into Armenian so fluently and so fast, says Ananias, that you would think you were listening to the original Armenian, and not to a translation. After having stored up all the knowledge he could at the foot of Thukhikos, Ananias returned to the fatherland to impart his knowledge to others. "I brought my mighty art to this country," says Ananias, "without the aid of anyone, and no one even thanked me for my trouble." He bitterly records that many came to study under him but went away before finishing their education, to impart to others what themselves had not fully acquired. "Hypocrites and vainglorious men who make a show of learning and love to be called Rabbi by men. They have said the accusations against me are nothing but malicious machinations."

The accusers, of course, were his former pupils who spread false rumors about their teacher, much the same as Constantine and his like had spread about Leo. Embittered by the slanders, Ananias pours out the vials of his wrath upon the heads of the Armenians, saying: "The Armenians do not care for meaning or knowledge, but are indolent and easily tired." If in the words "meaning" (the Armenian words may also be interpreted as wisdom) and "knowledge" (the Armenian word may likewise be interpreted as learning or science) the author has reference to the natural sciences, he has a right to complain, otherwise it is the exaggeration of the disgruntled, if not an absolute slander, to deny the Armenian innate love of investigation. Ananias' specialty were the "Quadruple Arts," consisting of arithmetic, music, geometry, and astronomy.

The sciences which Ananias loved could have never altogether disappeared, no matter how much they might have been forgotten, always bound to survive in the custody of a few followers. Bagrat the Astronomer probably is one of these custodians of Ananias' precious learning which he owed not to the capital but to his native Armenia. The spirit of the school of Magnavra which Leo inoculated did not come to an end after his death, nor did the Armenians keep aloof in the subsequent advancement. In the 10th century the sciences and the university were patronized by an enlightened magistros in the person of Constantine Dziranadzin, the learned emperor who was the grandson of Basil the Armenian. It is not our intention to follow here the development of the sciences during the subsequent centuries. We will only recall here another Armenian name, a famous mathematician who lived in the twilight of Byzantine civilization.

In the National Library of Paris there is a Greek manuscript, No. 2428, which consists of mathematical studies, including two articles which are the work of an Armenian

mathematician by the name of Nicholayos Artavasd Rhabdas (now pronounced Rhavdas). The first article, paper 194, is titled: "A Short and Simple Lesson in Mathematics, written in Constantinople by Nicholayos Artavasd of Smyrna, called Rhabdas, mathematician and geometrist, at the request of the most honorable Georg Khatzyke."

The other article, paper 225, bears the title: "To my Dearest Friend Theodor Tzabouke of Klaghomentz, written by Nicholayos Artavasd the Smyrnan, Rhabdas the Byzantine (from Constantinople)."

One of these twin names, Artavasd, is purely Armenian, indicating that he had just arrived in Smyrna from the east and had been renamed Nicholayos, his surname Rhabdas. Artavasd has written his work at the request of Georg who was called Khatzyke, obviously the Armenian name of Khachik, affectionate form Khatchatour, and known ever since the 10th century when even one of the Catholicoses bore the name. Both Georg Khachik and Theodor are Armenians. Tzaboukh is none other than the word "Chavoush." Theodor bore his title no doubt because he was a Chavoush (gendarm) at the imperial court. Farther back, the name of this office was Tzautzes which is the same word as Chavoush, a title which was held in high esteem at the time. Georg Khachik was an officer of the palace, the head of the office which handled all the petitions addressed to the Emperor.

This was how an Armenian scientist wrote two studies at the request of two of his compatriots. Neither of them is a subtle writing. In one article he explains the four operations of addition, subtraction, division and multiplication. The other paper deals with the fractions, the laws of multiplication, and the process of extracting the square root.

A French scientist has made a small research study of Nicholayos Artavasd Rhabdas in which he dwells largely on the method of extracting the square root. He proves that

the method which the German scientist Guentner ascribed to contemporary mathematicians Opperman and Alexeyev really belongs to Artavasd (P. Tannery, Manuel Moschopoulos et Nicolas Rhabdas, *Bulletin des Sciences Mathematiques*, 2 Serie, 8. 1884). This makes a humble gift of the Armenians to the science of mathematics.

Artavasd is also known for a geometrical work, a Greek manuscript (Cod. Suppl. Grec. 682) which is found in Paris. He lived in the 14th century, during the reign of Andronicus Palaeologus. He was still alive in 1341 as seen by one of his calculations. Having determined the Easter in the year of 6849, the 17th cycle of the sun and the 9th of the moon, Artavasd calls the year **THE PRESENT YEAR**. From the calculations it is apparent that he was referring to the year 1341 when Easter fell on April 8th. It is known that Michael, the son of Andronicus Palaeologus was married to Mariam, the sister of Hetoum II, Armenian king of Cilicia, to which marriage was born a son, Andronicus III, who ascended the throne in 1328 and reigned until 1341.

It is a subject of curious speculation if

these three, Georg Khachik, Theodor Chavoush, and Artavasd Rhabdas were not of the delegation which accompanied the daughter of the Armenian king to the imperial capital. Mariam was accompanied by her sister who was to have married a western prince but who died on the way. The surname of Rhabdas strikes me as the abbreviation of the word Rhabdophoros which means a page, literally a staff-bearer. In all probability, like Khachik and Chavoush, Artavasd too was an officer of the imperial court. The Armenian names which still cling to them are an indication that they had freshly arrived from the east and were not old residents of Byzantium.

Thus, the torch of the sciences which we see in the hand of Ananias Shirakatzi in the 7th century, which in all probability through Bagrat was transmitted to Leo the Philosopher and shone in the Palace of Magnavra, the same torch was still flickering in a modest Armenian circle in the Capital of Byzantium, on the eve of the Empire's downfall.

(Translated by J. G. M.)

